ER Site No. 167: Bldg 940 Septic System

ADS: 1303
Operable Unit: Tech Area II

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Site History

Building 940, the Explosive Testing Laboratory, is located on the southwestern side of TA-II and was constructed in 1965. During explosive testing in the 1960s, the building was contaminated with lead, which could have entered the septic system. The septic system also served fume hoods in a chemistry lab. The building was connected to the City of Albuquerque sanitary sewer system in 1990, and use of the septic system was discontinued at that time. The septic system consists of a 900-gal septic tank and an associated seepage pit. In addition, a high explosives (HE) drain system discharged effluent from the building floor drains. The HE drain system was designed to discharge wash water used to hose down the floors after HE assemble procedures into three 16-ft deep seepage pits, located southwest of the building. Part of the HE drain system consisted of a concrete trench that discharged to a catch box where a cloth filter removed the large particles of HE before the liquid drained to a seepage pit. This HE drain system reportedly was never used. Two other seepage pits received effluent from other floor drains and sinks.

The regional aquifer in the vicinity of ER Site 167 is within the upper unit of the Santa Fe Group. The depth to the regional aquifer in the nearest monitor well to ER Site 167 (TA2-NW1-595) is approximately 520 feet (ft) below ground surface (fbgs) or 4,889.3 ft above mean sea level (famsl). A shallow water-bearing zone also exists in the vicinity of ER Site 167. The depth to the shallow zone ranges from approximately 267 to 320 fbgs (5,081 to 4,889 famsl). Monitor wells RA2-SW1-325, TA2-NW1-320, WYO-2, TA2-W-19, and TA2-W-01 are located in the vicinity of ER Site 167 and are screened in the shallow water-bearing zone.

The area is essentially flat, with a gentle slope to the west of approximately 4 percent. Tijeras Arroyo, the largest drainage feature at Sandia National Laboratories / New Mexico (SNL/NM), is located approximately one half mile from the site. The surface geology consists of unconsolidated alluvial and colluvial deposits derived from the Sandia and Manzanita Mountains. These deposits consist of sediments ranging from clay to gravel derived from the

granitic rocks of the Sandia Mountains and greenstone, limestone, and quartzite derived from the Manzanita Mountains.

Surficial deposits are underlain by the upper unit of the Santa Fe Group. In this area, the piedmont-slope alluvium may be up to 100 ft thick, and the upper Santa Fe unit is approximately 1,200 ft thick.

The piedmont-slope alluvium, which was deposited by the ancestral Tijeras Arroyo, is generally coarse-grained sand and gravel. The upper Santa Fe unit was deposited from 5 to 1 million years ago. and consists of coarse- to fine-grained fluvial deposits from the ancestral Rio Grande that intertongue with coarse-grained alluvial-fan/piedmont-veneer facies, which extend westward from the Sandia and Manzanita Mountains. ER Site 167 is near the easternmost limit of the ancestral Rio Grande deposits.

Several rift-bounding faults are located east of ER Site 167. The nearest is the Sandia fault-zone, characterized by north-trending, west-dipping normal faults. The westernmost fault is located approximately 1.2 miles east of the site.

Constituents of Concern

HE
Lead
Organic compounds

Current Hazards

There are no hazards at this site related to chemical or radioactive contamination of surface or subsurface soils.

Current Status of Work

Investigations have included passive soil vapor surveys and soil sampling. Waste was removed from the septic tank, and the empty tank was inspected by New Mexico Environmental Department (NMED) in late 1995.

Based on an absence of contamination, ER Site 167 was proposed for No Further Action (NFA) in June 1995. Regulatory approval of the NFA is pending results of the TA-II groundwater investigation.

Future Work Planned

Additional sampling of the seepage pits was completed in September 2000. The results from this sampling and a revised risk assessment will be reported as an RSI to NMED once documentation is complete.

Waste Volume Estimated/Generated

Two 55-gal drums of hazardous waste were generated when cleaning out the septic tank. All waste has been disposed off-site.

Information for ER Site 167 was last updated Jan 24, 2003.